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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,749	02/18/2004	Yoshihiro Kimura	H6808.0040/P040	2045

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DICKSTEIN SHAPIRO LLP  
1825 EYE STREET NW  
Washington, DC 20006-5403

EXAMINER
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JOHNSTON, PHILLIP A

ART UNIT	PAPER NUMBER
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2881

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/779,749

Applicant(s)

KIMURA ET AL.

Examiner

Phillip A. Johnston

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 August 0200.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

***Detailed Action***

1. This Office Action is submitted in response to the RCE/ amendment filed 8-23-2006, wherein claims 1,2,3, 10, and 11 have been amended. Claims 1-11 are pending.

***Claims Rejection - 35 U.S. C. 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-11 are rejected under 35 U.S.C. 102 (b) as being clearly anticipated by Archie, U. S. Patent No. 5,969,273.

4. Regarding claim 11, Archie teaches the use of an SEM (charged particle source) to perform an e-beam scan (scanning deflector) across a resist line (Col. 5, line 36-47), forming a profile waveform of the detected electron signal (Col. 5, line 36-47) with processor 402 (Col. 5, line 3-5). Archie also teaches comparing the absolute value of the slope (comparison means) in regions on either side the peak locations of the waveform to determine the "humpwidth" of the resist line (Column 6, line 9-3) relative to the baseline of the waveform. Archie further teaches computing the derivative of the waveform 700, to determine the slope, and selecting the points at which the difference between the slope and the maximum slope (determination means) reaches a threshold value (Col. 6, line 23-28). Thus, since all the structural limitations

recited in claim 11 are anticipated by Archie, and the determination means of claim 11 is directed to a result or property of the Archie structure then claim 11 is anticipated by Archie. In re May.

5. Regarding claims 1,2, and 10, the rational applied above regarding claim 11, also applies to the structural limitations of claims 1,2, and 10.

6. Regarding claims 3 and 4 the rational applied above regarding claims 1,2, and 10 also applies to claims 3 and 4. Archie also teaches the beam scanning perpendicular to the sample. Note Figure 6A.

7. Regarding claim 5, the rational applied above regarding claims 1,2, and 10, also applies to claim 5.

8. Regarding claim 6, the rational applied above regarding claims 1,2, and 10, also applies to claim 6.

9. Regarding claim 7, the rational applied above regarding claim 6, also applies to claim 7. In addition, Archie teaches comparing waveform measurements to edge width or "humpwidth" threshold levels (a pre-registered model).

10. Regarding claims 8 and 9, the rational applied above regarding claim 6, also applies to claims 8 and 9.

### ***Conclusion***

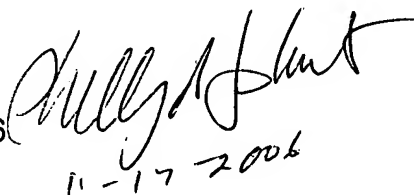
11. Any inquiry concerning this communication or earlier communications should be directed to Phillip Johnston whose telephone number is (571) 272-2475. The examiner

can normally be reached on Monday-Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Drew Dunn can be reached at (571)272-2312. The fax phone number for the organization where the application or proceeding is assigned is 571 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PJ

November 17, 2006



11-17-2006